THE INVENTION CLAIMED IS:

1. A method for fusing a first conduit portion to a second conduit portion, comprising the steps of:

(a) removably positioning a first terminal edge of the first conduit portion in an opposing relationship with a first terminal edge of the second conduit portion;

(b) facing the first terminal edge of the first conduit portion and the first terminal edge of the second conduit portion;

(c) aligning the first terminal edge of the first conduit portion with the first terminal edge of the second conduit portion;

(d) melting at least a portion of the first terminal edge of the first conduit portion and the first terminal edge of the second conduit portion;

(e) engaging the melted terminal edge of the first conduit portion with the melted terminal edge of the second conduit portion; and

(f) maintaining pressure between the engaged terminal edge of the first conduit portion and the terminal edge of the second conduit portion, thereby creating a fused joint area;

wherein at least one of the first conduit portion and the second conduit portion comprises a polyvinyl chloride material.

2. The method of claim 1, further comprising the step of removing at least a portion of a resultant external bead extending around the fused joint area.

3. The method of claim 1, further comprising the step of removing at least a portion of a resultant internal bead extending around the fused joint area.

4. The method of claim 1, further comprising the steps of:

removably positioning a second terminal edge of the first conduit portion in an opposing relationship with a first terminal edge of a subsequent conduit portion;

facing the second terminal edge of the first conduit portion and the first terminal edge of the subsequent conduit portion;

aligning the second terminal edge of the first conduit portion with the first terminal edge of the subsequent conduit portion;

melting at least a portion of the second terminal edge of the first conduit portion and the first terminal edge of the subsequent conduit portion;

engaging the melted terminal edge of the first conduit portion with the melted terminal edge of the subsequent conduit portion; and

maintaining pressure between the engaged terminal edge of the first conduit portion and the terminal edge of the subsequent conduit portion, thereby creating a subsequent fused joint area.

5. The method of claim 1, further comprising the steps of:

removably positioning a second terminal edge of the second conduit portion in an opposing relationship with a first terminal edge of a subsequent conduit portion;

facing the second terminal edge of the second conduit portion and the first terminal edge of the subsequent conduit portion;

aligning the second terminal edge of the second conduit portion with the first terminal edge of the subsequent conduit portion;

melting at least a portion of the second terminal edge of the second conduit portion and the first terminal edge of the subsequent conduit portion;

engaging the melted terminal edge of the second conduit portion with the melted terminal edge of the subsequent conduit portion; and

maintaining pressure between the engaged terminal edge of the second conduit portion and the terminal edge of the subsequent conduit portion, thereby creating a subsequent fused joint area.

6. The method of claim 1, wherein the facing step provides a substantially square face, perpendicular to a first conduit portion and a second conduit portion centerline.

7. The method of claim 1, wherein the aligning step includes aligning an outside diameter of the first conduit portion with an outside diameter of the second conduit portion.

8. The method of claim 1, wherein the melting step includes the simultaneous heating of both the terminal edge of the first conduit portion and the terminal edge of the second conduit portion.

9. The method of claim 1, wherein the gauge pressure for the engaging step is calculated utilizing the following formula:

$$MGp = \frac{\pi(OD^2-ID^2)}{4} \times \frac{Ip}{Ca}$$

wherein MGp is machine gauge pressure, π is 3.1416 circle formula, OD^2 is outside diameter in inches squared, ID^2 is inside diameter in inches squared, Ip is interfacial pressure and Ca is the cylinder area of machine in square inches.

10. The method of claim 9, wherein conduit surface area (pSa) in square inches is calculated utilizing the following formula:

$$pSa = \frac{\pi(OD^2-ID^2)}{4}$$

wherein π is 3.1416 circle formula, OD^2 is outside diameter in inches squared and ID^2 is inside diameter in inches squared.

11. The method of claim 10, wherein when a conduit area is 1.00 square inch, the gauge pressure is calculated utilizing the following formula:

$$Gp = pSa \times Ip$$

12. The method of claim 11, wherein when pipe surface area (pSa), interfacial pressure (Ip) and cylinder area of machine (Ca) are known, the gauge pressure is calculated utilizing the following formula:

$$MGp = \frac{pSa \times Ip}{Ca}$$

13. A fusion apparatus capable of performing the method of claim 1.

14. The fusion apparatus of claim 13, wherein the apparatus is substantially mobile and configured to be moved to an onsite location.

15. A fusion apparatus for fusing a first conduit portion to a second conduit portion, comprising:

a first clamping mechanism configured to engage and position the first conduit portion;

a second clamping mechanism configured to engage and position the second conduit portion;

a drive mechanism in operable communication with at least one of the first clamping mechanism and the second clamping mechanism and configured to drive at least one of the first clamping mechanism and the second clamping mechanism in a substantially longitudinal direction;

a facing mechanism positionable between a terminal edge of the first conduit portion and the terminal edge of the second conduit portion and configured to face at least one of the terminal edge of the first conduit portion and the terminal edge of the second conduit portion; and

a heater mechanism configured to melt at least one of the terminal edge of the first conduit portion and the terminal edge of the second conduit portion

wherein at least one of the first conduit portion and the second conduit portion comprises a polyvinyl chloride material.

16. The fusion apparatus of claim 15, wherein at least one of the first clamping mechanism and the second clamping mechanism is movable.

17. The fusion apparatus of claim 15, wherein the heater mechanism is movable.

18. The fusion apparatus of claim 15, wherein the heater mechanism comprises at least one of:

(i) a heating plate;

(ii) a plurality of heating plates; and

(iii) a dual-faced heating plate.

19. The fusion apparatus of claim 15, further comprising a control mechanism configured to at least one of: (i) communicate with and control at least one of the first clamping mechanism, the second clamping mechanism, the drive mechanism, the facing mechanism, the heater mechanism and at least one measurement device; and (ii) receive and process data signals from at least one component of the fusion apparatus.

20. The fusion apparatus of claim 19, wherein the control mechanism is configured to maintain a specified temperature at a surface of the heater mechanism.

21. The fusion apparatus of claim 19, wherein the control mechanism is configured to communicate with and receive one of analog and digital input from at least one measurement device and provide at least one of manual, analog and digital control of a heating temperature of the heater mechanism.

22. The fusion apparatus of claim 1, wherein the heater mechanism includes a plurality of heat zones positioned on a surface of the heater mechanism, such that each of the plurality of heat zones may exhibit a different temperature, thereby providing zone heating.

23. The fusion apparatus of claim 22, wherein the surface of the heater mechanism includes an upper and a lower heat zone.

24. The fusion apparatus of claim 22, wherein at least one of the plurality of heat zones is in communication with and controllable by a control mechanism.

25. The fusion apparatus of claim 24, wherein the control mechanism provides for at least one of manual, analog and digital control of at least one of the plurality of heat zones.

26. The fusion apparatus of claim 15, further comprising at least one measurement device in communication with at least one of the first clamping mechanism, the second clamping mechanism, the drive mechanism, the facing mechanism and the heater mechanism.

27. The fusion apparatus of claim 26, wherein the measurement device is configured to measure a heating surface of the heater mechanism.

28. The fusion apparatus of claim 27, wherein the measurement device is at least one of a thermometer and a pyrometer.

29. The fusion apparatus of claim 15, wherein the apparatus is substantially mobile and configured to be moved to an onsite location.

30. The fusion apparatus of claim 15, wherein the facing mechanism includes at least one blade portion.

31. The fusion apparatus of claim 30, wherein the at least one blade portion is a carbide-tipped blade element.

32. A fusion apparatus for fusing a first conduit portion to a second conduit portion, comprising:

means for removably positioning a first terminal edge of the first conduit portion in an opposing relationship with a first terminal edge of the second conduit portion;

means for facing the first terminal edge of the first conduit portion and the first terminal edge of the second conduit portion;

means for aligning the first terminal edge of the first conduit portion with the first terminal edge of the second conduit portion;

means for melting at least a portion of the first terminal edge of the first conduit portion and the first terminal edge of the second conduit portion;

means for engaging the melted terminal edge of the first conduit portion with the melted terminal edge of the second conduit portion; and

means for maintaining pressure between the engaged terminal edge of the first conduit portion and the terminal edge of the second conduit portion, thereby creating a fused joint area;

wherein at least one of the first conduit portion and the second conduit portion comprises a polyvinyl chloride material.